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(54) **METHODS AND APPARATUS FOR AN
INSERTION GUIDE DEVICE**

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(2013.01); **A61F 2/4455** (2013.01); **A61B**
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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,486,505	A	12/1969	Morrison	
5,431,658	A	7/1995	Moskovich	
6,652,533	B2	11/2003	O'neil	
6,755,841	B2	6/2004	Fraser et al.	
7,625,379	B2 *	12/2009	Puno	A61F 2/4611 606/86 A

(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 14/322,702, filed Jul. 2, 2014, Eastlack et al.

(Continued)

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ABSTRACT

A delivery instrument for placing an interbody implant into an intervertebral space of a patient comprises a plurality of elongated plates disposed adjacent one another. Each elongated plate has a proximal portion and a distal portion. The distal portion is sized and shaped to fit into the intervertebral space, and is configured to engage a vertebral body in the intervertebral space. An expandable member is coupled to the plurality of elongated plates so as to form an enclosed tube that is sized and shaped to receive the interbody implant. The expandable member allows for translation of the plurality of elongated plates relative to one another as the interbody implant passes through the tube.

24 Claims, 27 Drawing Sheets

